Cambridge Audio Azur752BD

Blu-ray Disc™ Player

Doug Blackburn

Like Cambridge Audio's previous Azur 751BD Blu-ray Disc™ player reviewed in Issue 162, December 2011, the Azur 752BD is based on the same Mediatech chip-set used in OPPO disc players. Also, like the 751BD, the 752BD is distinctly different than OPPO players in numerous ways. The circuit boards themselves are clearly unique to Cambridge, being laid out differently, labeled with Cambridge identification, and are blue in color. The main board contains the large integrated circuit carrying the Anagram DSP-based, ten-channel 24/192 upsampling chip that is not present in OPPO disc players. The digital audio architecture of the 752BD upconverts all digital signals to 24/192 before conversion to analog. Additionally, the Anagram upsampling DSP will upconvert digital outputs to 96 or 192 kHz sample rates if you select PCM output mode, which you really should be using to allow access to secondary audio features on Blu-ray Discs. There is no advantage to sending undecoded codecs (aka bitstream) like Dolby TrueHD or DTS-HD MA to your surround processor. Doing so prevents you from being able to access secondary audio from Blu-ray Discs.

The Azur 752BD is Cambridge's top-of-the-line Blu-ray Disc player. If you will not use or benefit from the analog outputs or high-quality upsampling, there is Cambridge's lower-cost disc player (currently the 651BD, but you might expect a 652BD at some point). The 752BD uses five onboard Wolfson DACs for all digital to analog conversion. Since each DAC is a stereo chip, that means there are 10 channels of analog-to-digital conversion onboard. Eight channels (four DACs) are used for the analog multichannel outputs, and a dedicated left and right output share the fifth Wolfson DAC. The OPPO BDP-105 uses ESS Sabre DACs and employs unspecified upsampling. Cambridge chose Anagram upsampling for the 752BD, presumably because they felt the end result was better than other options available to them. Cambridge also includes a choice of three digital filters designed by Anagram. The digital filter is one of the sources of sonic differences among different digital audio products. These digital filters have different properties, none of which are perfect, but each option has pluses and minuses in regards to measured response to various input stimuli like impulses, simultaneous tones, etc. Since different people react differently to different digital filters, Cambridge included three choices that can be selected by a direct-access button on the remote control. Three tiny blue LEDs on the front panel indicate which filter is in use, but you cannot determine the active filter from your seat unless you cycle through the three choices to learn which LED of the three is illuminated. These filters only apply to analog audio outputs. If you are using digital outputs, digital audio is sent directly and not filtered until it gets to the surround processor or AVR and then it will use the filter in the processor or AVR.

If you take a high-level look, the Azur 752BD and OPPO BDP-105 have a similar list of features, though, the Cambridge player lacks the 105's USB DAC input and the headphone jack. But the OPPO machine lacks the Anagram upsampling and the three selectable digital filters. Both machines are designed for analog audio performance beyond "standard" Blu-ray Disc players. OPPO and Cambridge did their thing in different ways, and you may have a preference for one machine over the other.

Some of the key features of the 752BD are: faster disc loading and faster response to commands from the remote control; 4K upsampling (not a needed feature yet, but perhaps some day a 4K display will exist that doesn't do a very good job of converting HD to UHD); two HDMI inputs; three USB inputs; digital coax and optical inputs; no video outputs except HDMI and a diagnostic composite video connection; dual HDMI outputs with Marvell Qdeo processing for HDMI1 only; universal disc playing capability (HDCD, CD, DVD, DVD-A, SA-CD, Blu-ray including 3D, Picture CD, and many writable or read-writable disc types); 2D to 3D conversion (no better or worse than other implementations); can be used as a "preamp" to feed multiple amplifier channels without an AVR or surround processor; front HDMI input is MHL compliant; included USB Wi-Fi adapter with USB extension cable to improve placement options to get best possible performance; network media support; and internet apps for YouTube and Picasa. In other respects, the 752BD has features similar to other current Blu-ray Disc players.

For those averse to components with cooling fans, the 752BD is fanless and quiet in operation other than the slight noise from the disc-spinning spindle motor. The 752BD's remote control is slimmer than most with a gently curved bottom and flat, metal top-plate. The backlight nicely illuminates the text or icon on each button, but you must manually press the backlight button otherwise the remote stays dark when you press buttons. The bottom of the remote has a silky rubber coating that feels great but doesn't contribute a lot to maintaining a solid grip on the remote. The centrally located navigation wheel is surrounded with a circle of eight more buttons that would sometimes get mistaken for the navigation wheel itself. Familiarity with the remote over time reduced the tendency to press the wrong button, but with so many other remotes not having additional buttons that close to the navigation wheel, perhaps it would be a better ergo choice to place that outer circle of buttons a bit farther from the navigation controls. The 752BD's owner's manual is excellent, with clear and concise descriptions of functions and options. The machine is well packed and comes out of the box wrapped in a "Cambridge blue" fabric protective bag.

Video Performance

Blu-ray Disc players have reached a pinnacle of video image quality that is putting most of them more or less on the same plane when it comes to how they present Blu-ray image quality. For a while, the PlayStation®3 and OPPO BDP-83 and 83SE had a pretty hard lock on great looking and accurate images from Blu-ray discs. But from that period in time (ca. 2009) forward, Blu-ray Disc players, as a group, have gotten more and more accurate. Of course, this may not hold true at the low end of the price range for Blu-ray Disc players, but for mid-range and high-end Blu-ray Disc players, accuracy seems to have improved steadily, until we have reached the point we are at today with most Blu-ray Disc players producing images that are very similar. Back in the days of analog video, manufacturers could (and would) play with the outputs to massage the images in whatever ways they thought would produce more demand for their product. There wasn't much focus on accuracy. These days, manufacturers seem to have adopted the motto "accurate Blu-ray Disc players are the best Blu-ray Disc players." The Azur 752BD is another disc player that really gets Blu-ray image quality right. There's literally nothing to complain about or pick at when it comes to the image quality you get from Blu-ray Discs. What is encoded on the disc is what you see on your display. And that's exactly as it should be. If we want to mess around with images, there are plenty of controls elsewhere (including in the 752BD) that allow all sorts of image accuracy mischief if you are bent on that sort of thing.

Playback of DVDs is one area where performance issues still differentiate indifferent (usually cheaper) Blu-ray Disc players from the better machines. It is not easy to make compressed-to-death DVD resolution look fantastic on HD video displays. The 752BD has slightly different video processing on the two HDMI outputs. HDMI 1 is the primary output. If you set up the machine so that HDMI 1 sends video and HDMI 2 sends audio (or is not used at all), you'll get the best possible image quality from DVD, as this configuration option will process DVD images through the Marvell Qdeo video processor. The 751BD was, I thought, just a bit shy of the best DVD upconversion available at that time (2011). It would appear in DVD images as a little extra softness and graininess compared to the best DVD upconversion. But the 752BD appears to be tweaked slightly so that it now matches the best DVD upconversion I've seen short of Lumagen's Radiance video processors, which still have a small edge. What you think of the DVD upconversion quality will have a lot to do with the transfer quality present on the DVD in question. Some of them are just horrible to look at on HD displays. For example, the DVD transfer of *The Dark Knight* is pretty abysmal. Grainy, noisy, loaded with easily visible compression artifacts in every frame, horrible looking aliasing on any lines that are anything less than perfectly vertical or perfectly horizontal, and even moiré artifacts at times. It's pretty shameful that a major studio would release a movie that looks that bad on DVD. On the other hand, the DVD version of *Mission Impossible: Ghost Protocol* is among the best transfers of live action to DVD that I can recall seeing. So if 10 people go out to have a demo of the 752BD and half use *TDK* and the other half use *MI:GP*, there are going to be very mixed reports about the relative goodness or badness of the DVD upconversion. Nothing can fix the problems in *TDK*, not even Lumagen's mighty Radiance processors. It looks terrible all the time. So choose your evaluation movies carefully if you value DVD upconversion quality. Computer animation on DVD looks so perfect through almost any disc player that you won't learn much from that either. The best choices are transfers that are somewhere in the middle… not too perfect, but not as bad as *TDK*.

The 752BD sailed through the torture tests on the HQV DVD Benchmark evaluation disc, matching the performance of the best

SPECIFICATIONS

Outputs - HDMI (2 on back), Composite (AV) (1 for diagnostics), Stereo RCA analog (1), Eight Multichannel analog RCA (1), Coax Digital (1), TOSLink optical (1), Ethernet 10/100 (1), Wireless N with included adapter (1),

Inputs - HDMI (1 front, 1 back), USB (1 front, 2 back), Coax Digital (1), TOSLink optical (1), Wired IR input (1 back)

Features
Wolfson WM8740 24-bit, 192-kHz DACs, 10 channels for stereo and multichannel analog
Brushed aluminum face plate
Selectable digital filters
4K video upconversion option
2D to 3D conversion option
Blu-ray 3D support
Faster disc loading and response to remote control commands than previous generations
Supports media streaming of many file formats including: AVCHD, MP4, AVI, MKV, WAV, FLAC
Support for network media playback (images, music, video)
MHL compatibility (connect compatible portable devices for media playback and battery charging via HDMI)
RS-232 control port
BD-Live and BonusVIEW support
IEC AC power cord socket
Fully backlit IR remote control
Direct access Web Apps for: YouTube; Picasa
Latest Marvell Qdeo Kyoto-G2H video processor
Anagram 24/192 upsampling for all 10 analog channels

Specifications
Power Requirements: 100-240 (VAC); 50 or 60 (Hz)
Power Consumption: Standby – 0.5 (watt, economy mode); operating – 35 (watts)
Frequency response: not specified
Dynamic range: not specified
Signal-to-noise ratio: better than -108 dB (unspecified conditions)
Channel separation: better than -100 dB @ 1000 Hz (unspecified conditions)
THD+Noise: less than 0.003% @ 1,000 Hz
Designed in: UK
Assembled in: China
Warranty: 3 years
Dimensions (WxDxH) – 16.9 x 12.3 x 3.3 (inch)
Weight – 11.0 lbs
MSRP – $1,299

Manufactured By:
Audio Partnership Plc
Cambridge Audio
Gallery Court
Hankey Place
London SE1 4BB
United Kingdom
Web site: www.cambridgeaudio.com

US Distributor:
Audio Plus Services
156 Lawrence Paquette Ind Drive
Champlain, New York 12919
Phone: 800 663 9352
Web site: www.audioplusservices.com

DVD upconversion I've seen in any disc player at any price. The 751BD also had Marvell Qdeo video processing, but the implementation in the 752BD seems to be optimized better than the processing from the 751BD. The difference isn't large, but it was detectable in middle-of-the-road DVD transfers and on the HQV Benchmark DVD.

HDMI is really the only video output option for the 752BD due to industry copyright violation concerns. Analog video outputs have been eliminated except for a hobbled version of composite video that can be used as a diagnostic option if it isn't possible to get an image via the HDMI connection.

Network video and cable/satellite video are the worst-quality video sources we are likely to view on a home theatre system today, as far as HD video sources go. Standard Def cable or satellite video is probably the worst single source, other than really bad low-res online videos. The 752BD uses the Marvell Qdeo processing for everything, whether from a disc, network, or as an input connected to one of the HDMI inputs. That means you can run the output of your cable or satellite box into the 752BD and that video input will be processed by the Marvell Qdeo processor and output via the 752BD's HDMI connection. This, in effect, turns the 752BD into something of an outboard video processor for your lower-quality sources. The 752BD is capable of cleaning up bad video, especially if you use some of the custom settings available via the 752BD's setup menu. Those settings won't be needed for Blu-ray Disc so you need to be aware of settings you use for lower-quality sources and remove them for high-quality sources like Blu-ray Disc. Between the input selection option you have on the 752BD and the optional variable volume control, you could use the 752BD to directly drive a multi-channel amplifier without a surround processor. This option hasn't been available from previous-generation Blu-ray Disc players, but the current generation OPPO machines and the 752BD support this new disc-player-as-control-center capability we haven't had in the past.

Network Media Support

The 752BD supports what is becoming standard for Blu-ray Disc players these days… network support for images, video, and music as well as direct-connection Internet applications. Some Blu-ray Disc players may support up to eight or more Internet streaming services for images, videos, music, and "Internet radio." The 752BD supports only YouTube and Picasa as of mid-February 2013. It is apparently possible to add services via firmware updates, but Cambridge has not indicated whether they will expand offerings in the future or not. Frankly, media support in Blu-ray Disc players can be superfluous if you have a TV with Internet app support, so for many owners the short list of Internet apps is meaningless.

I found the 752BD's network playback of images, music, and video was quite functional and useful. Previous generations of disc players with network functionality tended to be clunky, slow, frustrating, and prone to crashing while using network functionality. The 752BD very obviously responds and navigates more quickly and did not crash for me while I used Internet or network applications. These improvements make using the network features considerably more pleasurable. As was my experience with the OPPO disc players, playing music via USB or Ethernet sounded better than playing a physical CD in the disc transport. It wasn't a large difference, but it was more obvious than the difference in the three digital filters discussed elsewhere.

3D Performance

Not much to report here. If a disc player is an accurate 2D machine, it will be an accurate 3D machine. The 752BD is just as impressive when delivering 3D from Blu-ray 3D Discs as it is when delivering 2D.

For the first time, a Cambridge Blu-ray Disc player has the option to convert 2D movies from discs or from any of the HDMI or USB inputs to 3D. People seem to think this will be a wonderful thing, but the reality is that it's really difficult to do worthwhile 3D conversion on the fly. When a movie studio shoots a feature and converts it to 3D in post-production, or when a previously released 2D movie is revisited and converted to 3D, it takes the company (or companies) doing the conversion a *long* time using powerful computers to render convincing 3D from the 2D source. Operators also intervene to insure the selected perspective is appropriate and correct. *Clash Of The Titans* has become the poster child for bad 2D-to-3D conversions. People generally have quite a dislike for the 3D appearance of *Clash Of The Titans*. But compared to the 2D-to-3D conversion capabilities of various TVs, projectors, and disc players, *Clash Of The Titans* is a masterpiece of 3D conversion. The 752BD does have a 2D-to-3D conversion option, but it's really nothing but a novelty. I've never been entertained for any length of time with the 2D-to-3D conversion available in video displays or disc players, and the 752BD is no exception. If your expectations are low, you won't be disappointed.

This isn't a knock on Cambridge or the 752BD. It's simply a fact of life. There's a perceived need to have this feature in late-model video displays and disc players, but none of them do it well enough to make it entertaining for more than five minutes every six months. Customers seem to want it. Marketing departments seem to think it's necessary to have. But nobody really benefits from it being there because today's ability to synthesize 3D from 2D on the fly in a disc player or video display just isn't very impressive.

Digital Sound Quality

I tried to find obvious sonic differences between the HDMI and coax outputs of the 752BD and other disc players, but there just wasn't anything identifiable. With AudioControl's Maestro M3 doing the digital decoding work, every disc player I had here sounded so similar via HDMI or coax that there's really no reason to spend a lot of money on a Blu-ray Disc player if you'll only use HDMI and/or coax for sound.

I will say that if you are listening to music, HDMI doesn't sound as good as coax or well-decoded analog. This isn't Cambridge-specific, this is the same for every manufacturer. Maybe someday that will get worked out, but for right now, when I want to get the best-sounding music playback from any disc player, the way to achieve that is to use a USB or network input. For music playback, I got the best results with the coax output or with the analog outputs. For movie sound, HDMI was the equal of any other output option. Use of the multi-channel analog outputs for movies had no obvious benefits unless the surround processor lacked HDMI inputs. But, the multi-channel analog outputs were clearly the best-sounding option for 5.1 DVD-Audio discs or SA-CDs.

Analog Sound Quality

This is one of the primary reasons high-end Blu-ray Disc players like Cambridges's Azur 752BD exist. If higher-end players didn't offer something above and beyond, what's the point of stretching the budget from a $200 or $500 disc player to a disc player selling for more than $1,000? The analog sound from the multi-channel and stereo outputs is identical in every way I could identify. Not surprising, considering the same high-quality stereo DACs are used for both.

The 752BD has the best analog sound quality I've heard from a Blu-ray Disc player so far… there, I said it. The high-end Blu-ray Disc player getting the most attention these days is OPPO's recently introduced BDP-105. But the 752BD sounds better. The main difference is that the BDP-105's sound is more forward and has less depth. The BDP-105's stereo sound appears to emanate from a plane slightly forward of the loudspeakers. The 752BD places the main plane of the sound just behind the loudspeakers, and there's a greater sense of depth going back behind the loudspeakers and more sense of width to the sides. The other difference I heard was that the 752BD's sound

puts just a bit more silence between the notes. This is a difficult thing to describe in words, but it essentially makes each note more distinct without really sounding particularly different from other high-end disc players. In other respects, like tonality, detail, richness, bass quality, midrange clarity and clean, clear, pretty-sounding highs, the two disc players may not be identical in sound, but they certainly don't differ much in quality or character. I used to think this had something to do with the quietness of the noise floor, but I don't think that's right. I think it probably has more to do with the quality of digital-to-analog decoding than anything else.

Compared to Cambridge's Azur 751BD from 2011, the 752BD has a more refined and lightly updated version of the sound from the older machine. The extra silence between notes applies here also. The slightly more spacious character of the 752BD is also an advantage over the 751BD. While the 752BD doesn't *quite* match the standalone Wavelength Proton USB DAC driven by a Mac Mini computer, the Proton/computer combo, including the high-end USB cable and computer upgrades, sells for about $3,100 if you install the RAM and solid state hard disk yourself (very tricky to do in a Mac Mini if you've never done it before). If I didn't already have the computer and USB DAC for music playback, I would be quite happy to use the 752BD as my music playback source component.

The 752BD plays most common disc types including DVD-Audio and SA-CD. These high-res music discs often include 5.1-channel surround sound in addition to a stereo mix. High-res 5.1 performances sounded fabulous via the multichannel analog outputs, again, the best 5.1 analog music sound I've heard so far from a Blu-ray Disc player.

The three different digital filter options that the 752BD offers only come into play when you are using the stereo or multichannel analog outputs. I did hear slight differences among the three options. I preferred filter 3, followed closely by number 1. Filter 2 didn't sound obviously bad, it just didn't quite have the musical moxy I got from 3 and 1.Your preference may vary. The audible differences between the three different types of digital filters are very subtle. I've heard much larger differences from modern remasters of albums I've previously owned on CD or even from analog audio cable changes. In fact, if you compare the 44.1 kHz version of a CD with a true 88.2 kHz or higher-res version of the same album, that difference will be considerably more obvious than the difference between the three digital filter options.

Conclusion

Cambridge Audio's $1,299 Azur 752BD combines speedy disc loading and remote control response with network media capabilities, the ability to be used as a preamp in a system without a surround processor or AVR, universal disc compatibility, and the best analog sound quality I've experienced in a Blu-ray Disc player so far. Image quality is equal to the best Blu-ray Disc players available at any price, and the 752BD's images are highly accurate when you avoid using menu settings that change the data read from movie discs. There are many disc players that work equally well if you use a single HDMI connection to a surround sound processor or AVR. But if you need or want high-quality analog audio from a wide range of digital sources, the Azur 752BD delivers the best analog sound from a disc player that I've heard to date. WSR

Provided By

The Essential Home Theatre Resource™
Widescreen Review®

This review, Copyright © 2013 Widescreen Review, has been provided in its entirety from Issue 175, March 2013.

Take advantage of our lowest-priced subscription ever at WidescreenReview.com

Widescreen Review, P.O. Box 2587, Temecula, CA 92593. Phone 951 676 4914 Fax 951 693 2960. Order online at: WidescreenReview.com. All major credit cards are accepted.